

Notice of Allowability

Application No.

09/963,668

Examiner

Delia M. Ramirez

Applicant(s)

RIEPING ET AL.

Art Unit

1652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 12/13/2004.
2. ☒ The allowed claim(s) is/are 1,6,7 and 28-30.
3. ☒ The drawings filed on 29 December 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Status of the Application

Claims 1, 6-7, 28-30 are pending.

Amendment of claims 7, 28, cancellation of claims 2, 4-5, 9, and amendments to the specification, in a communication filed on 12/13/2004 are acknowledged.

Applicant's submission of a declaration by Applicant's representative indicating that a biological deposit has been made in compliance with the Budapest Treaty and a statement regarding public availability, is deemed sufficient to overcome the previous 35 USC 112, first paragraph rejection previously applied, which is hereby withdrawn.

In a telephone conversation with Thomas Cawley on 2/8/2005, an agreement was reached to amend claims 1 and 7 to place the application in condition for allowance.

Examiner's Amendment

1. An informal Examiner's amendment to the specification appears below. This amendment is to add a specific reference to the prior application(s) in the first sentence of the specification (37 CFR 1.78).
2. Please enter the following amendments to the specification as follows:
3. In page 1, immediately after the title, please insert the following sentence:

This application claims priority to U.S. provisional Application No. 60/237,610, filed on 10/4/2000.
4. An Examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
5. Authorization for this Examiner's amendment was given in a telephone interview with Thomas Cawley on 2/8/2005.

Art Unit: 1652

6. Please replace claims 1 and 7 as follows:

1. A fermentation process suitable for the preparation of a desired L-amino acid selected from the group consisting of L-threonine, L-isoleucine, L-valine, and L-lysine, the process comprising:

- a) fermentation of an *E. coli* strain in a fermentation broth for producing the desired L-amino acid, wherein the endogenous gene encoding phosphoenolpyruvate (PEP) carboxykinase (*pckA* gene) of *E. coli* is inactivated by one or more methods of mutagenesis selected from the group consisting of deletion, insertional mutagenesis due to homologous recombination, and transition or transversion mutagenesis with incorporation of a non-sense mutation in the *pckA* gene, and
- b) elimination of water from the fermentation broth to increase the concentration of said L-amino acids; and
- c) isolation of the L-amino acids.

7. The process according to claim 1, wherein one or more *E. coli* genes selected from the group consisting of:

- (a) the *tdh* gene coding for threonine dehydrogenase,
- (b) the *mdh* gene coding for malate dehydrogenase,
- (c) the gene product of the open reading frame (orf) *yjfA*, and
- (d) the gene product of the open reading frame (orf) *yjfP*

are inactivated by one or more methods of mutagenesis selected from the group consisting of deletion, insertional mutagenesis due to homologous recombination, and transition or transversion mutagenesis.

Reasons for Allowance

7. The following is an Examiner's statement of reasons for allowance. Although the prior art discloses methods to produce L-amino acids by fermentation of microorganisms, the Examiner has found no teaching or suggestion in the prior art directed to a fermentation process for the production of L-amino acids using an *E. coli* strain which contains an inactivated endogenous *pckA* gene. Therefore, claims 1, 6-7 and 28-30 directed to a fermentation process for the production of L-threonine, L-valine, L-isoleucine or L-lysine using an *E. coli* strain wherein its endogenous *pckA* gene has been inactivated by specific mutagenesis methods, are allowable over the prior art of record. In addition, while claim 1 has been provisionally rejected over claim 35 of copending application No. 10/114073, claim 31 of copending application No. 10/076416, and claims 46-50 of copending application No. 10/114043 as being unpatentable under the judicially created doctrine of obviousness-type double patenting, as correctly pointed out by Applicants, MPEP 804(I)(B) states that if a provisional double patenting rejection is the only rejection remaining in the application, the Examiner should then withdraw the rejection and allow the application to issue as a patent, thereby converting the "provisional" double patenting rejection in the other application(s) into a double patenting rejection at the time the one application issues as a patent. Since the only issues remaining regarding the examination of this application are provisional double patenting rejections, and the copending applications have not issued as patents, the instant rejections are hereby withdrawn. It is noted that while the Examiner provisionally rejected claim 1 over claims 12-14 of copending application No. 10/114048 under the judicially created doctrine of obviousness-type double patenting, this rejection is withdrawn since that application is now abandoned.

Conclusion

8. Claims 1, 6-7 and 28-3 are allowed.

Art Unit: 1652


9. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delia M. Ramirez whose telephone number is (571) 272-0938. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Ponnathapura Achutamurthy can be reached on (571) 272-0928. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1600.

Delia M. Ramirez, Ph.D.
Patent Examiner
Art Unit 1652

DR
February 9, 2005


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PRIMARY EXAMINER
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